

61 color video reproducing apparatus, synchronization signals, and a common voltage, and outputting respective red, green and blue video signals and a common voltage; and

a chrominance non-uniformity correction circuit providing a chrominance non-uniformity correction signal to the electrical signal processing system for canceling chrominance non-uniformity.

REMARKS

This is in full and timely response to the Office Action dated July 5, 2001. Reconsideration and reexamination are respectfully requested in view of the foregoing amendment and the following remarks.

By the foregoing amendment, claim 7 was amended to correct the spelling of the word "through," and was not made to overcome any cited or applied art. Claims 1-10 are currently pending in this Application, with claims 1-4 and 7 being independent. Applicant believes that all pending claims are allowable, and this application is in condition for allowance.

Rejections under 35 U.S.C. §102

Claim 1 is rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 5,260,797 to Muraji et al. Applicants respectfully traverse this rejection.

Claim 1 recites a liquid-crystal display apparatus having a liquid-crystal display panel. A means is provided for supplying a primary color video signal, wherein a correction signal for canceling chrominance non-uniformity is superimposed on the primary color video signal. A means for supplying a common voltage is also provided.

Muraji et al. '797 disclose a projection type image display apparatus with a circuit for correcting luminance non-uniformity. As stated in the summary, "The red and blue color component signals of an input video signal are corrected independently of one another so that their luminance is commensurate with that of the green component signal." Column 2, lines 52-55. This is accomplished using a signal correction circuit 69, so that "a luminance distribution on said screen by each of said three projection lenses becomes a predetermined nonuniform

luminance distribution according to the predetermined correction data, thereby correcting the nonuniformity of the luminance caused by the optical device.” See column 2, lines 37-45 (emphasis added). At no point in Muraji et al. ‘797 is it disclosed, taught or suggested that luminance can be substituted for chrominance, or that there is a direct correlation between correcting luminance nonuniformity with correcting chrominance nonuniformity, or that an apparatus that corrects for luminance nonuniformity can be used to correct for chrominance nonuniformity, or that the apparatus of Muraji et al. ‘797 can be used to correct for chrominance nonuniformity.

Furthermore, at no point does the Office Action allege that luminance can be substituted for chrominance, or that there is a direct correlation between correcting luminance non-uniformity with correcting chrominance non-uniformity, or that an apparatus that corrects for luminance non-uniformity can be used to correct for chrominance non-uniformity, or that the apparatus of Muraji et al. ‘797 can be used to correct for chrominance non-uniformity.

A document can only anticipate a claim if the document discloses, explicitly or implicitly, each and every feature recited in the claim. Verdegall Bros. v. Union Oil Co. of Calif., 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Since Muraji et al. ‘797 fail to disclose, either explicitly or implicitly, at least the above-noted feature recited in independent Claim 1, Muraji et al. ‘797 cannot anticipate the claim. At least in view of the foregoing, claim 1 is allowable, and the rejection should be reconsidered and withdrawn.

Rejections under 35 U.S.C. §103

Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,260,797 to Muraji et al. in view of U.S. Patent 5,831,709 to Song. Applicants respectfully traverse this rejection.

Claim 2 recites a liquid-crystal display apparatus having a liquid-crystal display panel. A means is provided for supplying a primary color video signal, and a means is provided for supplying a common voltage, wherein a correction signal for canceling chrominance non-uniformity is superimposed on the common voltage.

The Office Action acknowledges that Muraji et al. ‘797 does not apply a correction

voltage added to a common voltage. Song '709 discloses a liquid crystal display having an improved common voltage line. The Office Action alleges that compensating a "common voltage is more simple than to compensate a video voltage." Office Action at para. 4. This statement is irrelevant to the application of Muraji et al. '797 in view of Song '709. Applicants are not claiming that it would be simpler to compensate a common voltage than to compensate a video voltage. Rather, Applicants are claiming a correction signal for canceling chrominance non-uniformity that is superimposed on the common voltage. This claim element is not disclosed, taught or suggested by Muraji et al. '797 or Song 709, either alone or in combination.

As discussed above, at no point in Muraji et al '797 is it disclosed, taught or suggested that luminance can be substituted for chrominance, or that there is a direct correlation between correcting luminance nonuniformity with correcting chrominance nonuniformity, or that an apparatus that corrects for luminance nonuniformity can be used to correct for chrominance nonuniformity, or that the apparatus of Muraji et al '797 can be used to correct for chrominance nonuniformity.

Furthermore, at no point does the Office Action allege that luminance can be substituted for chrominance, or that there is a direct correlation between correcting luminance nonuniformity with correcting chrominance nonuniformity, or that an apparatus that corrects for luminance nonuniformity can be used to correct for chrominance nonuniformity, or that the apparatus of Muraji et al. '797 can be used to correct for chrominance nonuniformity.

Additionally, at no point does the Office Action allege that Song '709 makes up for these deficiencies of Muraji et al. '797.

For at least the reasons stated above, claim 2 is therefore patentable, and withdrawal of the rejection is respectfully requested.

Claims 1-10 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,067,128 to Imai in view of U.S. Patent 5,260,797 to Muraji et al. Applicants respectfully traverse this rejection.

Claim 3 recites a three-panel liquid-crystal display projector having a white light source, along with a color separation system for separating a white light from the white light

source into color lights. A liquid-crystal display panel, supplied with a red video signal and a common voltage, for presenting a red video image is also provided, along with a liquid-crystal display panel, supplied with a green video signal and a common voltage, for presenting a green video image, and a liquid-crystal display panel, supplied with a blue video signal and a common voltage, for presenting a blue video image, wherein one of the red, green and blue video images is projected in a left-side-right inverted orientation. Also provided is a color synthesis system for synthesizing the color video images and a lens system. A chrominance non-uniformity correction signal is superimposed on the video signal which is supplied to the liquid-crystal display panel which projects the left-side-right inverted video image.

Claim 4 recites a three-panel liquid-crystal display projector having a white light source, along with a color separation system for separating a white light from the white light source into color lights. A liquid-crystal display panel, supplied with a red video signal and a common voltage, for presenting a red video image is also provided, along with a liquid-crystal display panel, supplied with a green video signal and a common voltage, for presenting a green video image, and a liquid-crystal display panel, supplied with a blue video signal and a common voltage, for presenting a blue video image, wherein one of the red, green and blue video images is projected in a left-side-right inverted orientation. Also provided is a color synthesis system for synthesizing the color video images and a lens system. A chrominance non-uniformity correction signal is superimposed on the common voltage which is supplied to the liquid-crystal display panel which projects the left-side-right inverted video image.

Claim 7 recites a three-panel liquid-crystal display projector having a plurality of liquid-crystal display panels respectively receiving red, green, and blue light rays from a light source through a color separation system to respectively produce a red video image, a green video image, and a blue video image. A color synthesis system synthesizes the red, green and blue video images for projection onto a screen to produce an enlarged image on the screen. An electrical signal processing system receiving a primary color video signal from a color video reproducing apparatus, synchronization signals, and a common voltage, and outputs respective red, green and blue video signals and a common voltage. A chrominance non-uniformity correction circuit provides a chrominance non-uniformity correction signal to the

electrical signal processing system for canceling chrominance non-uniformity.

Imai '128 discloses a liquid crystal display full-color video projector. The projector projects on a screen an enlarged image of an image produced by LCD elements. The projector displays the image in colors, and the display includes three sheets of LCD elements, a color separating optical system including dichroic mirrors, and a color mixing optical system including a cross dichroic mirror and/or a cross dichroic prism.

As acknowledged in the Office Action, Imai '128 does not disclose, teach or suggest a chrominance non-uniformity correction signal, or the superimposition of a chrominance non-uniformity correction signal on the primary color video signal.

The Office Action relies on Muraji et al. '797 for allegedly disclosing a chrominance non-uniformity correction circuit. As discussed above in detail, Muraji et al. '797 disclose a projection type image display apparatus with a circuit for correcting luminance non-uniformity. At no point does the Office Action allege that luminance can be substituted for chrominance, or that there is a direct correlation between correcting luminance non-uniformity with correcting chrominance non-uniformity, or that an apparatus that corrects for luminance non-uniformity can be used to correct for chrominance non-uniformity, or that the apparatus of Muraji et al '797 can be used to correct for chrominance non-uniformity.

Accordingly, Imai '128 in view of Muraji et al. '797 does not disclose, teach or suggest a liquid crystal display apparatus having a chrominance non-uniformity correction signal that can be superimposed on either a video signal or on the common voltage. Thus, Imai '128 in view of Muraji et al. '797 does not disclose, teach or suggest the claimed invention.

For at least the reasons stated above, claim 1-4 and 7 are therefore patentable, and withdrawal of the rejection is respectfully requested.

Claim 5 depends from patentable claim 3, claim 6 depends from patentable claim 4, and claims 8-10 depend from patentable claim 7 are therefore patentable for the reasons explained above. Moreover, claims 5-6 and 8-10 are further distinguished by the materials recited therein, particularly within the claimed combination. Withdrawal of the §103(a) rejection is therefore respectfully solicited.

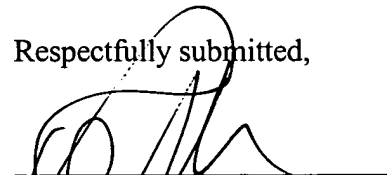
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PATENT APPLICATION

Conclusion

If the Examiner has any comments or suggestions that could place this application into even better form, the Examiner is encouraged to contact the Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



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Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge Deposit Account No. 180013 for any such fees; and applicant(s) hereby petition for any needed extension of time.

Appendix I

In accordance with 37 CFR 1.121(c)(1)(ii), amended claim 7 is set forth in a marked-up version below:

7. (amended) A three-panel liquid-crystal display projector, comprising:

a plurality of liquid-crystal display panels respectively receiving red, green, and blue light rays from a light source [throu]through a color separation system to respectively produce a red video image, a green video image, and a blue video image;

a color synthesis system for synthesizing the red, green and blue video images for projection onto a screen to produce an enlarged image on the screen; and

an electrical signal processing system for receiving a primary color video signal from a color video reproducing apparatus, synchronization signals, and a common voltage, and outputting respective red, green and blue video signals and a common voltage; and

a chrominance non-uniformity correction circuit providing a chrominance non-uniformity correction signal to the electrical signal processing system for canceling chrominance non-uniformity.